FIG. 1

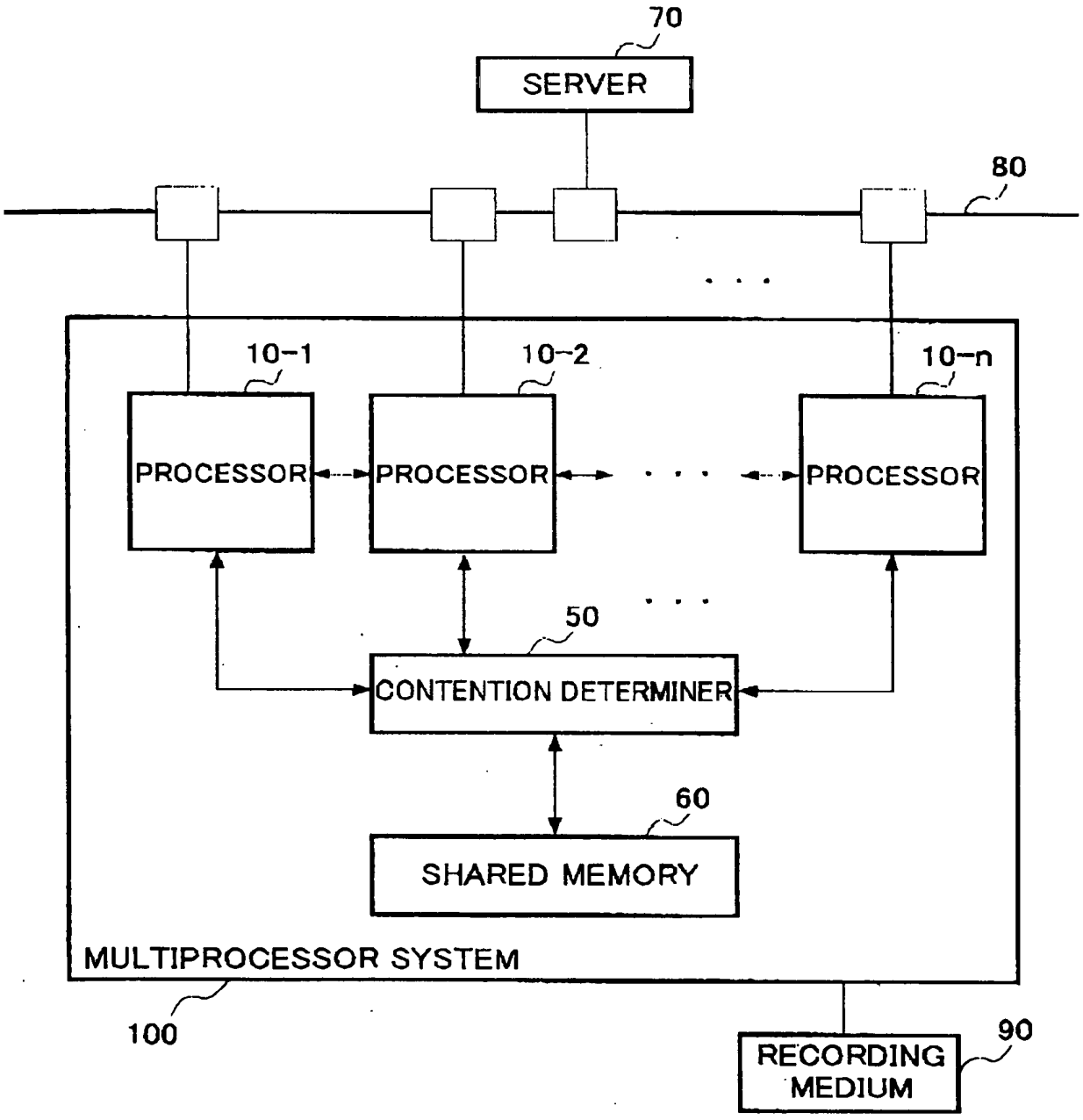

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FIG. 2

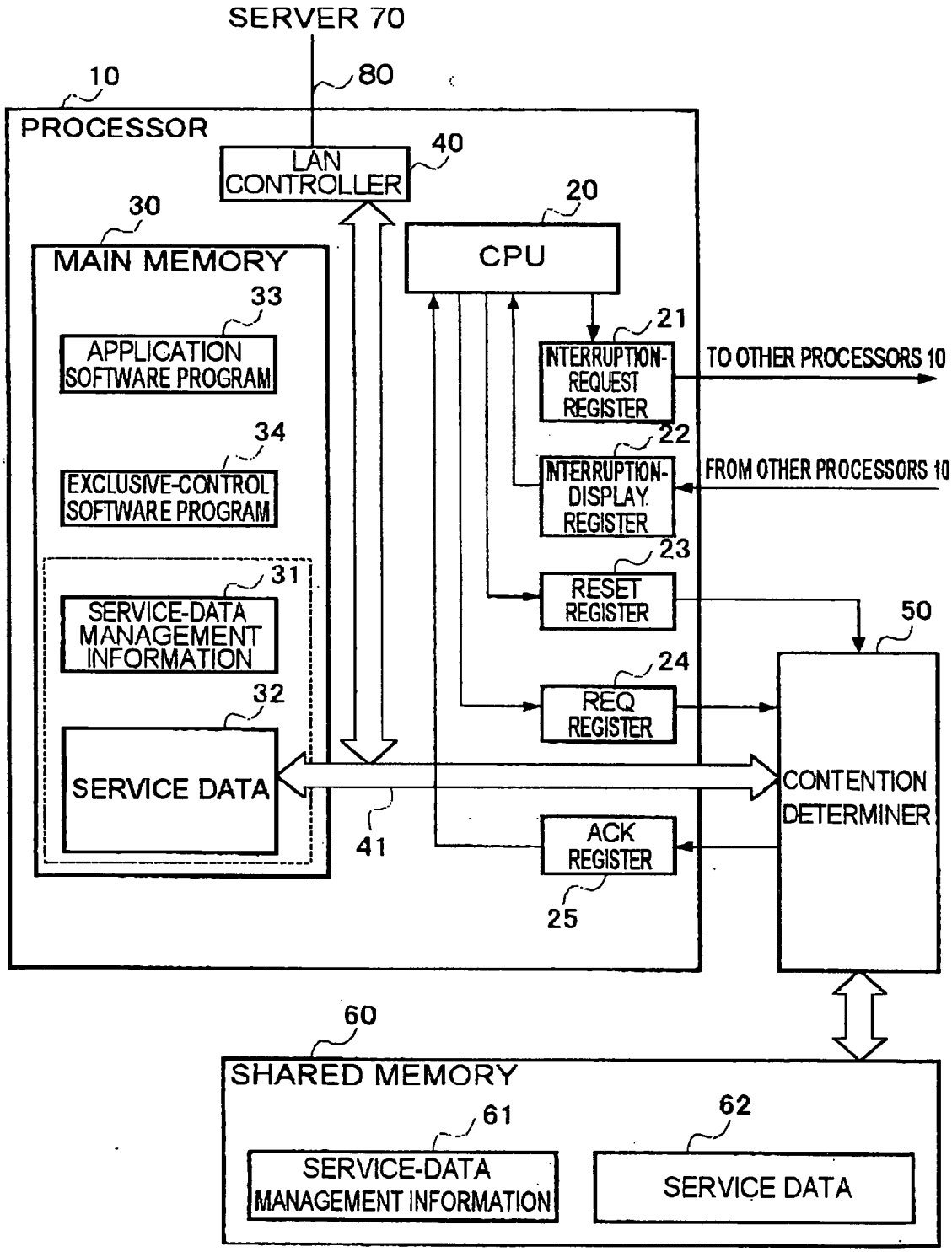
SERVER 70
80
10
PROCESSOR
40
LAN CONTROLLER
20
CPU
30
MAIN MEMORY
33
APPLICATION SOFTWARE PROGRAM
34
EXCLUSIVE-CONTROL SOFTWARE PROGRAM
31
SERVICE-DATA MANAGEMENT INFORMATION
32
SERVICE DATA
21
INTERRUPTION-REQUEST REGISTER
TO OTHER PROCESSORS 10
22
INTERRUPTION-DISPLAY REGISTER
FROM OTHER PROCESSORS 10
23
RESET REGISTER
50
24
REQ REGISTER
CONTENTION DETERMINER
41
ACK REGISTER
25
60
SHARED MEMORY
61
SERVICE-DATA MANAGEMENT INFORMATION
62
SERVICE DATA

FIG. 3

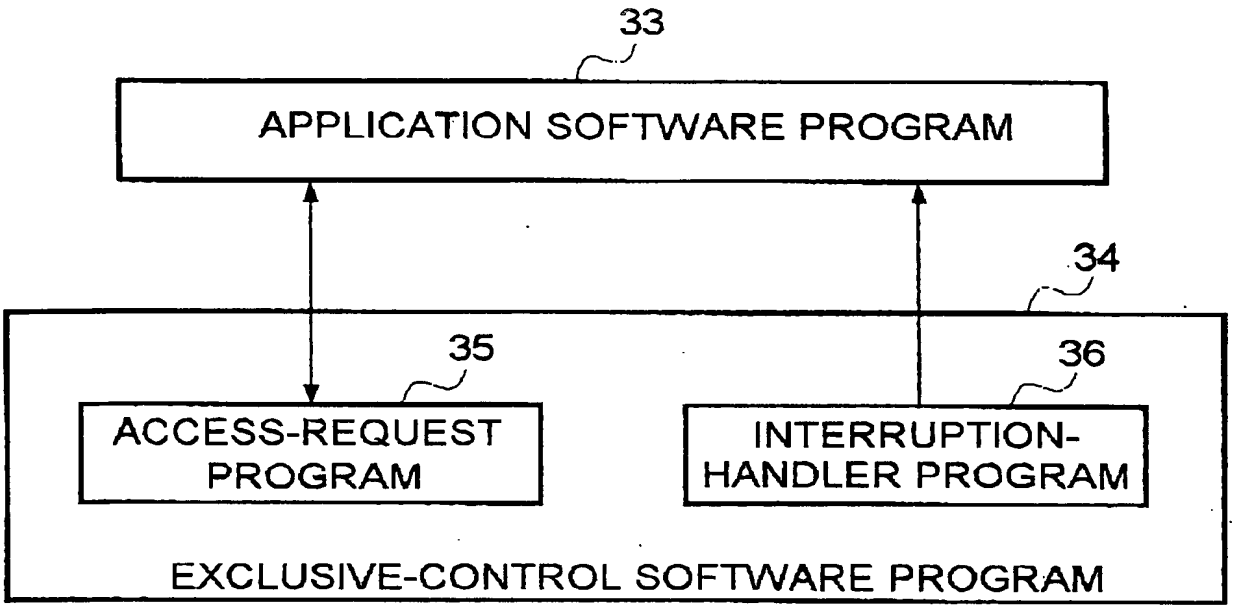

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FIG. 4A

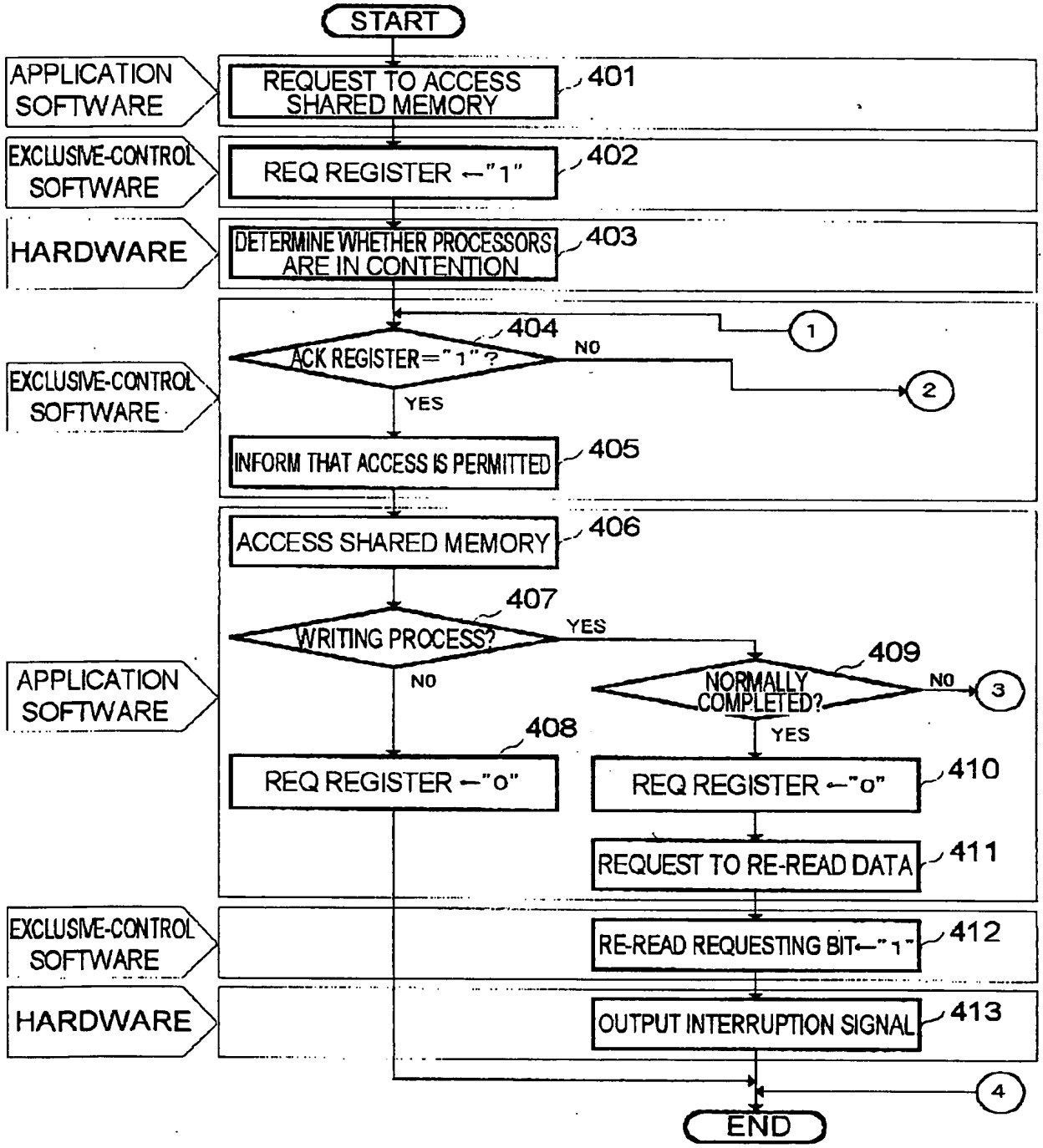
START
APPLICATION SOFTWARE
REQUEST TO ACCESS SHARED MEMORY
401
EXCLUSIVE-CONTROL SOFTWARE
REQ REGISTER ←"1"
402
HARDWARE
DETERMINE WHETHER PROCESSORS ARE IN CONTENTION
403
EXCLUSIVE-CONTROL SOFTWARE
404
ACK REGISTER="1"?
NO
YES
1
2
INFORM THAT ACCESS IS PERMITTED
405
ACCESS SHARED MEMORY
406
APPLICATION SOFTWARE
407
WRITING PROCESS?
YES
NO
409
NORMALLY COMPLETED?
NO
3
YES
408
REQ REGISTER ←"0"
REQ REGISTER ←"0"
410
REQUEST TO RE-READ DATA
411
EXCLUSIVE-CONTROL SOFTWARE
RE-READ REQUESTING BIT←"1"
412
HARDWARE
OUTPUT INTERRUPTION SIGNAL
413
4
END

FIG. 4B

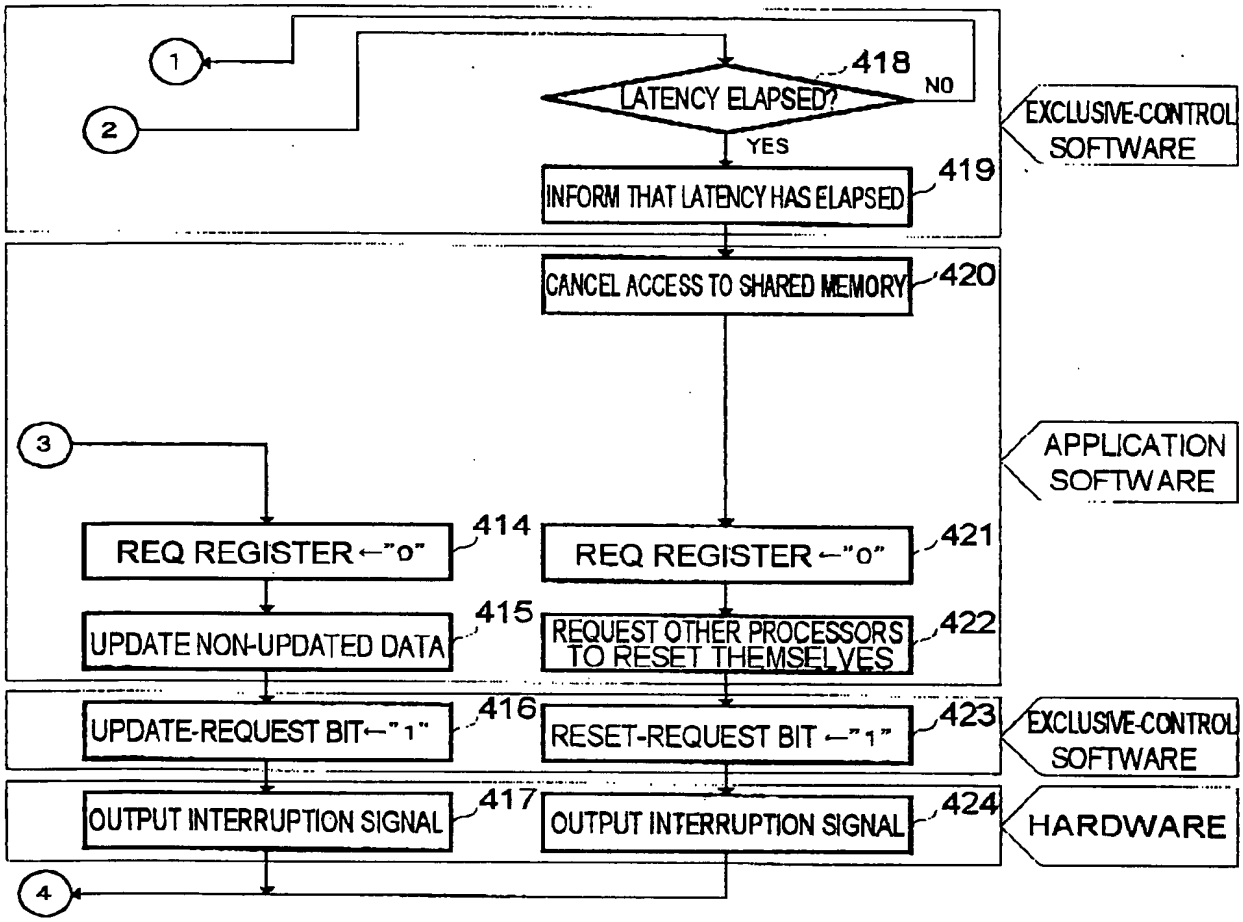

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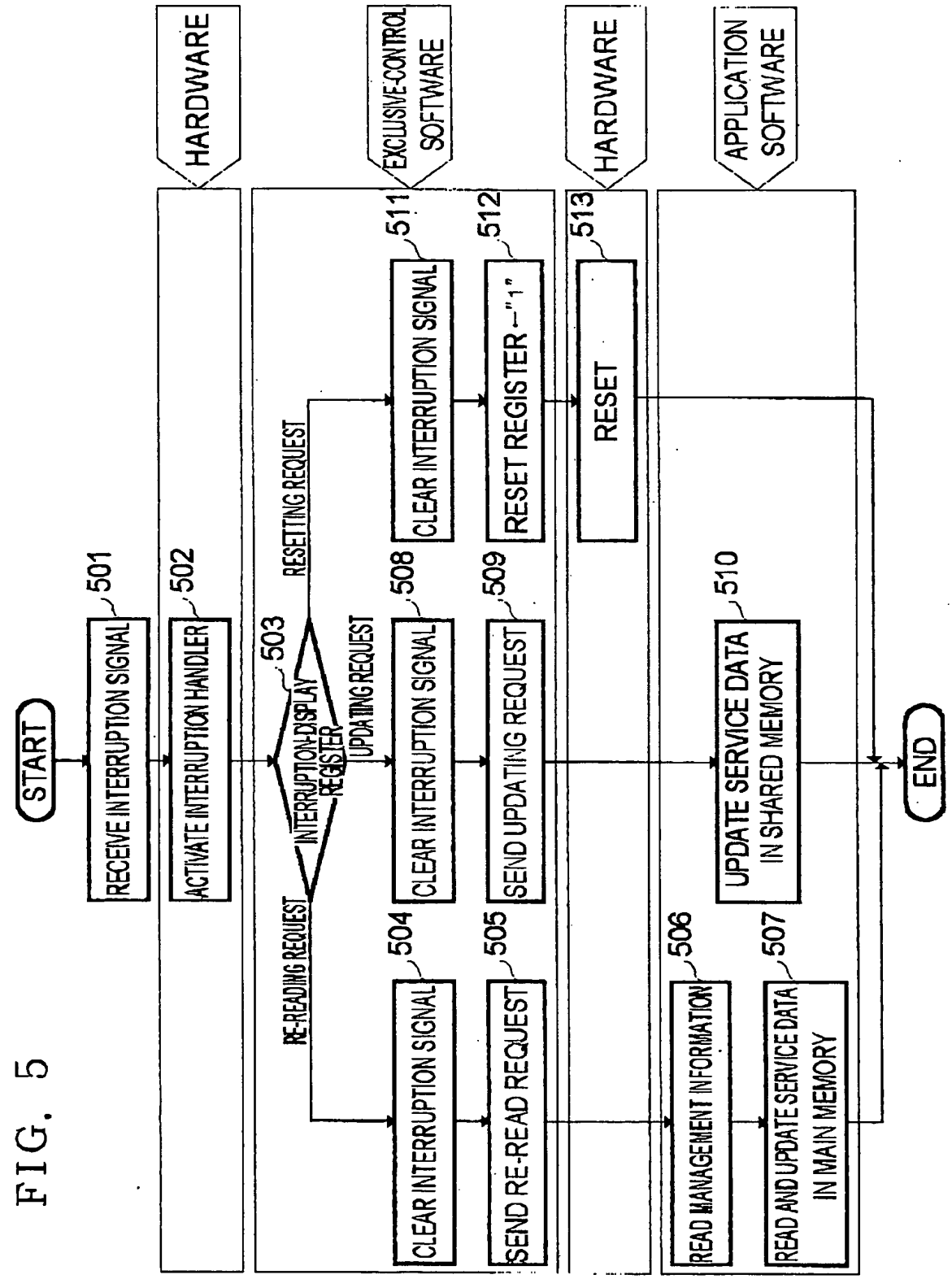
FIG. 5


HARDWARE
EXCLUSIVE-CONTROL SOFTWARE
HARDWARE
APPLICATION SOFTWARE
START
501
RECEIVE INTERRUPTION SIGNAL
502
ACTIVATE INTERRUPTION HANDLER
503
INTERRUPTION-DISPLAY REGISTER
RESETTING REQUEST
UPDATING REQUEST
RE-READING REQUEST
511
CLEAR INTERRUPTION SIGNAL
512
RESET REGISTER ← "1"
513
RESET
508
CLEAR INTERRUPTION SIGNAL
509
SEND UPDATING REQUEST
510
UPDATE SERVICE DATA IN SHARED MEMORY
504
CLEAR INTERRUPTION SIGNAL
505
SEND RE-READ REQUEST
506
READ MANAGEMENT INFORMATION
507
READ AND UPDATE SERVICE DATA IN MAIN MEMORY
END